AD-A109 931 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
148188 LANCE, MISSILE NUMBER 4573, ROUND NUMBER 372-APT, 16 NOV--ETC(U)
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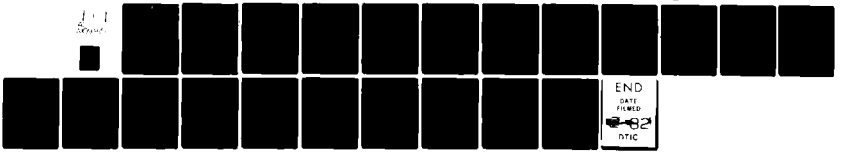

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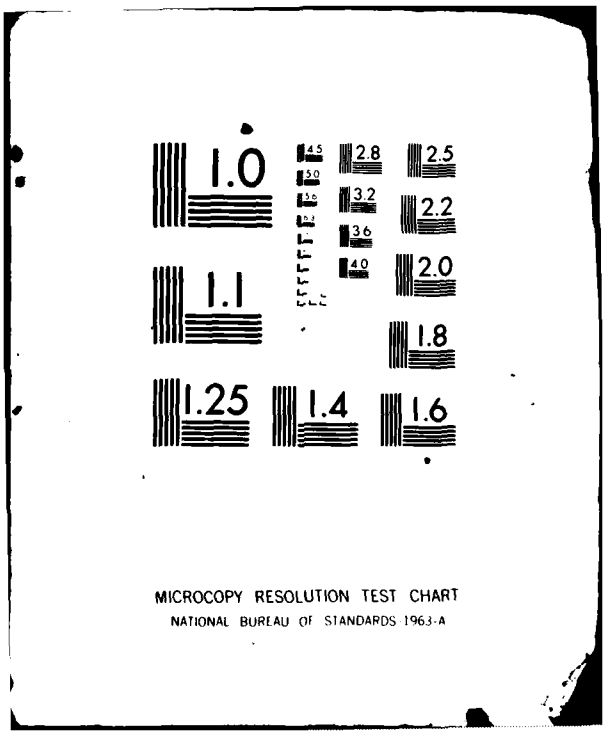
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1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

LEVEL II

DR 1213
November 1981
AD

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AD A109931

METFOROLOGICAL DATA REPORT

14818B Lance
Missile Number 4573
Round Number 372-APT
16 November 1981

DTIC ELECTE JAN 22 1982 S H

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 14818B Lance, Missile Number 4573, Round Number 372-APT presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

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CONTENTS

INTRODUCTION

14818B Lance, Missile Number 4573, Round Number 372-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 0845 MST, 16 Nov 1981. The scheduled launch time was 0845 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations.

a. Surface:

(1) Standard surface observation to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind speed and direction, and cloud cover were made at the LC-39 Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

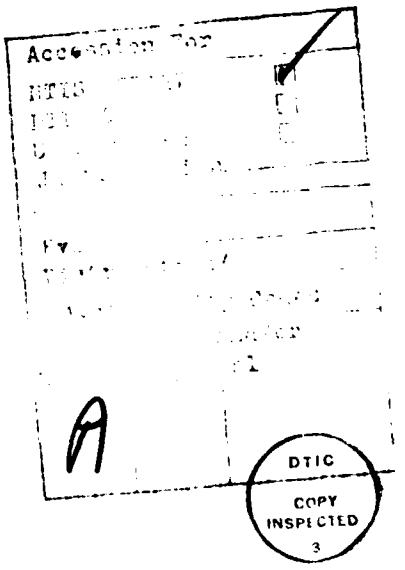
b. Upper Air:

(1) Low level wind data were obtained from Single Theodolite Tracked pibal observations at:

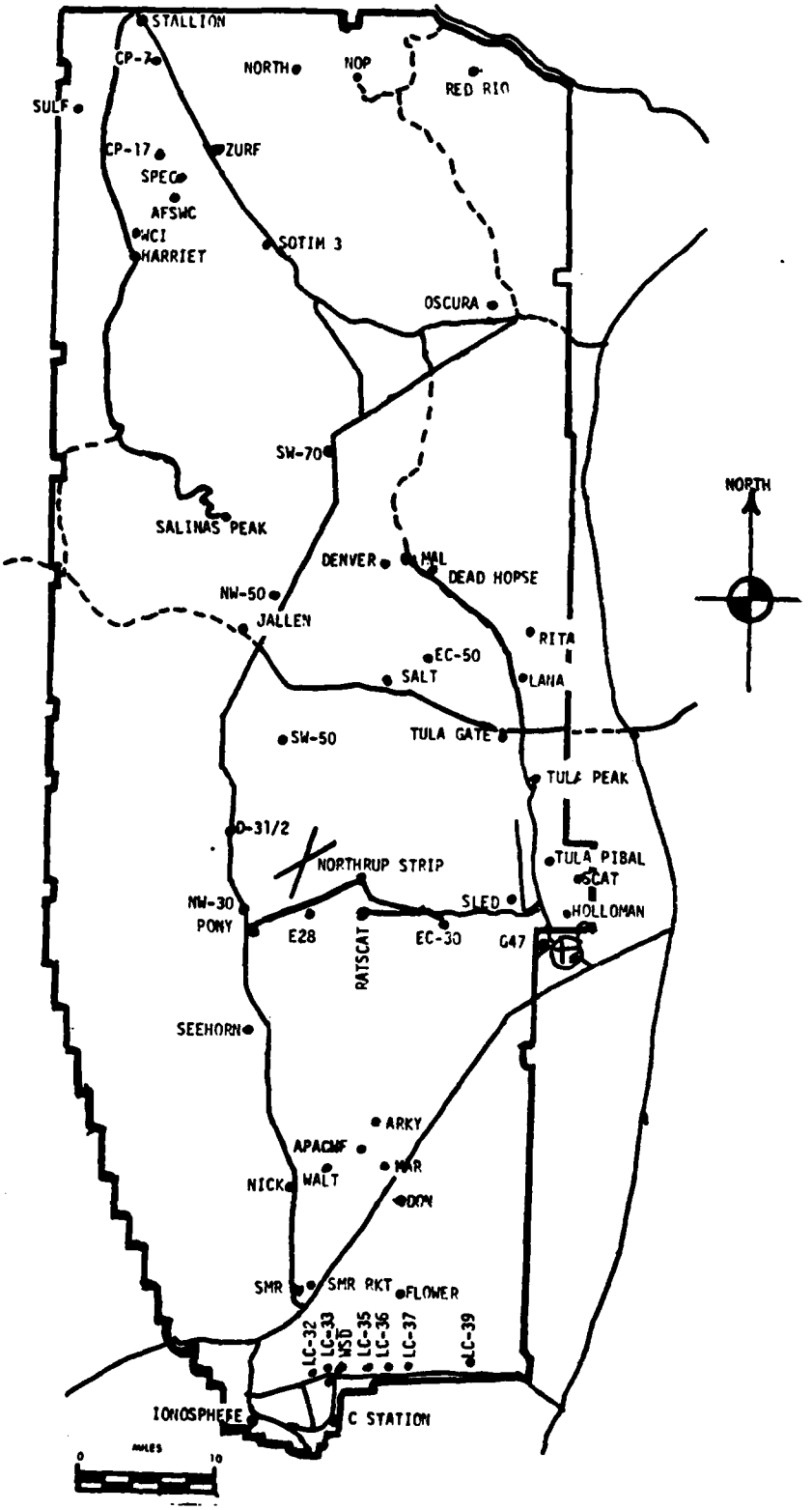
SITE AND ALTITUDE	
LC-39	3 KM

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-feet increments.

SITE AND TIME	
LC-37	0845 MST
SMR	0900 MST



WSMR METEOROLOGICAL SITES



PPOJECT SURFACE OBSERVATION

TABLE 1

STATION LC-39

DATE 16 (DAY) Nov (MONTH) 1981 (YEAR)

X= 530,938.82 Y=186,564.96 H=4,063.75

TIME M S T	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
0845	882.6		13.6		-1.1	36		C A L M			50

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
										C L E A R

PSYCHROMETRIC COMPUTATION

TIME: MST	0845		
DRY BULB TEMP.	13.6		
WET BULB TEMP.	6.5		
WET BULB DEPR.	7.1		
DEW POINT	-1.1		
RELATIVE HUMID.	36		

PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM LC-39 DATE 16 Nov 1981 TIME 0835 MST

COORDINATES (WSTM) X= 530,938.82 Y= 186,654.96 H= 4,063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO _____.

HEIGHTS ARE METERS AGL X OR FEET AGL _____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
SFC	C A	L M
60	356	01
120	356	02
180	356	03
240	356	04
300	356	05
360	354	06
420	347	05
480	338	05
540	327	05
600	317	04
660	306	05
720	297	05
780	291	05
840	285	06
900	281	07
960	277	07
1020	274	07
1080	270	07
1140	267	07
1200	264	07
1260	261	07
1320	258	08
1380	256	08
1440	254	08
1500	253	08
1560	251	08
1620	251	09
1680	251	09
1740	251	10
1800	251	10
1860	251	11
1920	250	11
1980	249	12
2040	248	12
2100	247	13
2160	247	13
2220	249	13
2280	252	13
2340	255	13
2400	257	12
2460	260	13
2520	263	13
2580	267	14
2640	269	14
2700	272	15
2760	273	15
2820	273	16
2880	273	16
2940	272	16
3000	272	17

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS

PILOT BALLOON MEASURED WIND DATA

TABLE 3

RELEASED FROM LC-39 DATE 16 Nov 1981 TIME 0845 MST

COORDINATES (WSTM) X= 530,938.82 Y= 186,564.96 H= 4,063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO _____.

HEIGHTS ARE METERS AGL X OR FEET AGL _____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
SEC	C A	L M
60	359	01
120	359	02
180	359	03
240	359	04
300	359	05
360	358	06
420	353	05
480	346	04
540	338	04
600	328	04
660	316	03
720	306	04
780	299	04
840	293	05
900	288	05
960	284	06
1020	281	06
1080	277	06
1140	274	06
1200	270	06
1260	267	07
1320	263	07
1380	259	07
1420	255	07
1500	251	07
1560	247	08
1620	247	08
1680	247	09
1740	247	09
1800	247	10
1860	247	10
1920	247	11
1980	247	11
2040	248	12
2100	248	12
2160	248	13
2220	249	13
2280	249	13
2340	250	13
2400	250	14
2460	252	14
2520	255	14
2580	257	14
2640	260	14
2700	262	14
2760	264	15
2820	266	15
2880	268	15
2940	269	16
3000	270	17

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS

TABLE 4

Launch And Impact Area Computer Met Messages
16 Nov 1981

LC-37 0845 MST
METCM1324063
161580124883
00000000 28590883
01628007 28750873
02618006 28980847
03539003 28890808
04486008 28710762
05450008 28400718
06442013 28140676
07445017 27820636
08470018 27470598
09472020 27110562
10440018 26790527
11446017 26370494
12470018 25720448
13484021 24860392
14542022 24030341
15578027 23240295
16598032 22430254

SMR 0900 MST
METCM1325064
161600122884
00160002 28660884
01567005 28760873
02021004 28970848
03535004 28940809
04558006 28750763
05451010 28530719
06447013 28250677
07458017 27910637
08470018 27580599
09470022 27270563
10447020 27000529
11450019 26600496
12468019 25980450
13495024 25150394
14544023 24310343
15576028 23530298
16603029 22710257

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 61 0845 HRS MST
ASCENSION NO. 224

SIGNIFICANT LEVEL DATA
32001802Z4
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
883.1	4051.4	12.3	-4.3	31.0
868.2	4521.6	14.7	-.6	35.0
850.0	5111.4	16.3	.0	33.0
764.8	8046.1	13.5	-2.4	33.0
700.0	10474.3	8.9	-6.1	34.0
674.4	11485.5	7.7	-9.2	29.0
614.0	14003.4	2.7	-14.0	28.0
589.2	15094.5	.1	-15.6	29.0
555.2	16650.6	-3.2	-19.1	28.0
530.8	17815.9	-5.1	-21.6	26.0
500.0	19346.8	-9.8	-24.8	28.0
400.0	24866.0	-23.3	-37.0	27.0
351.8	27906.9	-31.7	-43.7	29.0
338.6	28793.9	-33.5	-45.3	29.0
300.0	31554.4	-39.8	-50.9	29.0
250.0	35567.6	-50.1		
226.2	37706.2	-53.1		
200.0	40290.1	-58.2		
150.0	46153.3	-65.9		
100.0	54101.3	-74.6		
89.3	56293.4	-70.9		
85.4	57162.9	-72.6		
70.0	61076.6	-66.6		
58.6	64674.6	-61.2		
50.0	67942.5	-59.5		
44.6	70305.8	-59.5		
39.8	72676.4	-56.7		
30.0	78611.4	-56.0		
24.6	82829.2	-51.6		
20.0	87247.8	-54.3		
14.4	94290.6	-49.9		

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 81 0845 HRS MST
ASCENSION NO. 224

UPPER AIR DATA
3200180224
LC-37
TABLE 6

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	883.1	12.3	-4.3	31.0	1075.7	658.8	.0	.0	1.000260
4500.0	868.9	14.6	-.8	34.8	1049.3	661.7	345.6	1.1	1.000260
5000.0	853.4	16.0	-.1	33.4	1025.4	663.3	345.6	2.4	1.000256
5500.0	838.2	15.9	-.3	33.0	1007.4	663.3	345.6	3.6	1.000252
6000.0	823.2	15.5	-.7	33.0	991.1	662.7	353.8	4.2	1.000247
6500.0	808.6	15.0	-1.1	33.0	975.0	662.2	309.8	4.5	1.000243
7000.0	794.1	14.5	-1.6	33.0	959.3	661.6	290.9	5.4	1.000239
7500.0	780.0	14.0	-2.0	33.0	943.8	661.0	277.7	6.7	1.000235
8000.0	766.1	13.5	-2.4	33.0	928.5	660.5	271.1	7.4	1.000231
8500.0	752.2	12.6	-3.1	33.2	914.7	659.4	266.9	7.4	1.000226
9000.0	738.7	11.7	-3.9	33.4	901.3	658.3	262.7	7.7	1.000222
9500.0	725.3	10.7	-4.6	33.6	888.0	657.2	258.9	8.1	1.000218
10000.0	712.2	9.8	-5.4	33.8	875.0	656.0	253.2	8.9	1.000214
10500.0	699.3	8.9	-6.2	33.9	862.1	654.9	248.6	9.8	1.000210
11000.0	686.6	8.3	-7.7	31.4	848.3	654.2	247.1	11.4	1.000205
11500.0	674.0	7.7	-9.2	29.0	834.7	653.4	246.3	13.1	1.000201
12000.0	661.6	6.7	-10.2	28.8	822.3	652.2	246.8	15.3	1.000197
12500.0	649.4	5.7	-11.1	28.6	810.1	651.0	248.3	16.6	1.000193
13000.0	637.4	4.7	-12.1	28.4	798.0	649.8	251.1	17.0	1.000190
13500.0	625.6	3.7	-13.0	28.2	786.2	648.7	254.9	17.0	1.000186
14000.0	614.1	2.7	-13.9	28.0	774.5	647.5	259.8	16.7	1.000183
14500.0	602.6	1.5	-14.8	28.5	763.3	646.0	263.5	17.5	1.000180
15000.0	591.3	.3	-15.6	28.9	752.4	644.6	266.3	18.9	1.000177
15500.0	580.1	-.8	-16.6	28.7	741.2	643.3	268.2	19.2	1.000174
16000.0	569.2	-1.8	-17.7	28.4	730.0	642.0	268.2	19.3	1.000170
16500.0	558.4	-2.9	-18.8	28.1	719.1	640.8	268.1	19.3	1.000167
17000.0	547.8	-3.8	-19.8	27.4	707.8	639.7	265.5	19.3	1.000164
17500.0	537.3	-4.6	-20.9	26.5	696.4	638.7	249.9	19.4	1.000161
18000.0	527.0	-5.7	-22.0	26.2	685.8	637.4	248.6	18.2	1.000158
18500.0	516.8	-7.2	-23.0	26.9	676.5	636.5	248.1	16.8	1.000156
19000.0	506.8	-8.7	-24.1	27.5	667.3	635.7	249.2	16.4	1.000153
19500.0	496.9	-10.2	-25.2	28.0	657.9	634.9	250.6	16.3	1.000151
20000.0	487.0	-11.4	-26.3	27.9	647.7	633.5	252.7	16.6	1.000148
20500.0	477.2	-12.6	-27.4	27.8	637.8	632.0	254.8	16.8	1.000146
21000.0	467.7	-13.8	-28.5	27.7	628.0	630.5	257.3	17.2	1.000143
21500.0	458.3	-15.1	-29.6	27.6	618.4	629.0	259.5	17.7	1.000141
22000.0	449.1	-16.3	-30.7	27.5	608.9	627.5	261.3	18.4	1.000138
22500.0	440.2	-17.5	-31.8	27.4	599.6	626.0	263.1	19.1	1.000136
23000.0	431.3	-18.7	-32.9	27.3	590.4	624.5	265.2	19.9	1.000134
23500.0	422.7	-20.0	-34.0	27.2	581.4	623.0	267.3	20.6	1.000132

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 81 0845 HRS MST
ASCENSION NO. 224

UPPER AIR DATA
320116O224
LC-37
TABLE 6 CON'T

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	414.3	-21.2	-35.1	27.2	572.6	618.5	269.3	21.4	1.000129
24500.0	406.0	-22.4	-36.2	27.1	563.9	617.0	271.9	22.1	1.000127
25000.0	397.7	-23.7	-37.3	27.1	555.3	615.4	274.9	22.9	1.000125
25500.0	389.4	-25.1	-38.4	27.4	546.7	613.7	276.8	22.5	1.000123
26000.0	381.3	-26.4	-39.5	27.7	538.3	612.0	277.9	20.9	1.000121
26500.0	373.3	-27.8	-40.6	28.1	530.0	610.3	281.9	19.5	1.000119
27000.0	365.5	-29.2	-41.7	28.4	521.9	608.5	289.8	18.6	1.000117
27500.0	357.9	-30.6	-42.8	28.7	513.9	606.8	299.0	19.5	1.000115
28000.0	350.4	-31.9	-43.9	29.0	505.9	605.2	306.2	21.1	1.000113
28500.0	342.9	-32.9	-44.8	29.0	497.2	603.9	307.1	21.7	1.000111
29000.0	335.6	-34.0	-45.7	29.0	488.7	602.5	307.9	22.9	1.000109
29500.0	328.3	-35.1	-46.7	29.0	480.4	601.1	308.5	24.4	1.000108
30000.0	321.2	-36.3	-47.8	29.0	472.2	599.6	311.1	25.8	1.000106
30500.0	314.2	-37.4	-48.8	29.0	464.2	598.2	314.9	27.3	1.000104
31000.0	307.4	-38.5	-49.8	29.0	456.4	596.7	318.5	28.1	1.000102
31500.0	300.7	-39.7	-50.8	29.0	448.7	595.3	322.1	28.2	1.000100
32000.0	294.0	-40.9	-52.9	25.8**	441.0	593.7	325.5	28.0	1.000099
32500.0	287.4	-42.2	-55.3	22.2**	433.5	592.0	328.9	27.1	1.000097
33000.0	280.9	-43.5	-57.8	18.6**	426.2	590.4	331.6	27.0	1.000095
33500.0	274.6	-44.8	-60.6	14.9**	418.9	588.7	333.1	27.8	1.000093
34000.0	268.5	-46.1	-63.7	11.3**	411.8	587.1	334.5	29.0	1.000092
34500.0	262.4	-47.4	-67.5	7.7**	404.9	585.4	335.6	30.4	1.000090
35000.0	256.5	-48.6	-72.8	4.1**	398.1	583.7	337.8	31.6	1.000089
35500.0	250.8	-49.9	-86.6	.5**	391.4	582.1	340.1	32.9	1.000087
36000.0	245.0	-50.7			383.7	581.0	339.6	33.7	1.000085
36500.0	239.3	-51.4			376.0	580.1	339.1	34.4	1.000084
37000.0	233.8	-52.1			368.5	579.2	338.0	34.6	1.000082
37500.0	228.4	-52.8			361.1	578.3	336.6	34.8	1.000080
38000.0	223.1	-53.7			354.1	577.1	337.4	35.3	1.000079
38500.0	217.8	-54.7			347.3	575.8	338.4	35.9	1.000077
39000.0	212.7	-55.7			340.6	574.5	339.8	37.2	1.000076
39500.0	207.7	-56.6			334.1	573.2	341.3	38.6	1.000074
40000.0	202.8	-57.6			327.8	571.9	339.9	41.3	1.000073
40500.0	198.0	-58.5			321.2	570.8	337.9	44.4	1.000072
41000.0	193.2	-59.1			314.4	569.9	335.6	46.9	1.000070
41500.0	188.5	-59.8			307.7	569.1	333.4	49.3	1.000069
42000.0	183.9	-60.4			301.2	568.2	332.4	50.7	1.000067
42500.0	179.4	-61.1			294.8	567.3	331.9	51.5	1.000066
43000.0	175.1	-61.8			288.6	566.4	331.8	51.9	1.000064
43500.0	170.9	-62.4			282.4	565.5	331.9	51.8	1.000063

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
3200180224
LC-37

TABLE 6 CON'T

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 81 0845 HRS MST
ASCENSION NO. 224

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
44000.0	166.7	-63.1			276.5	564.7	332.3	51.5	1.000062
44500.0	162.7	-63.7			270.6	563.8	333.1	50.5	1.000060
45000.0	158.7	-64.4			264.9	562.9	334.0	49.5	1.000059
45500.0	154.9	-65.0			259.3	562.0	334.2	48.4	1.000058
46000.0	151.1	-65.7			253.8	561.1	334.4	47.3	1.000057
46500.0	147.4	-66.3			248.2	560.3	334.7	44.6	1.000055
47000.0	143.7	-66.8			242.6	559.6	335.1	40.7	1.000054
47500.0	140.0	-67.4			237.1	558.8	334.9	37.5	1.000053
48000.0	136.5	-67.9			231.7	558.1	333.5	35.3	1.000052
48500.0	133.1	-68.5			226.5	557.4	331.3	33.6	1.000050
49000.0	129.7	-69.0			221.4	556.6	328.6	33.5	1.000049
49500.0	126.5	-69.6			216.4	555.9	322.0	33.7	1.000048
50000.0	123.3	-70.1			211.5	555.1	318.5	32.9	1.000047
50500.0	120.2	-70.7			206.7	554.4	315.0	32.1	1.000046
51000.0	117.1	-71.2			202.1	553.6	312.5	31.0	1.000045
51500.0	114.2	-71.8			197.5	552.9	310.8	29.6	1.000044
52000.0	111.3	-72.3			193.1	552.1	309.5	28.3	1.000043
52500.0	108.5	-72.8			188.7	551.4	311.4	27.7	1.000042
53000.0	105.8	-73.4			184.5	550.6	313.4	27.1	1.000041
53500.0	103.1	-73.9			180.3	549.9	317.0	26.3	1.000040
54000.0	100.5	-74.5			176.3	549.1	321.2	25.6	1.000039
54500.0	98.0	-73.9			171.3	549.9	325.0	23.9	1.000038
55000.0	95.5	-73.1			166.2	551.0	328.8	21.2	1.000037
55500.0	93.0	-72.2			161.3	552.2	333.5	18.6	1.000036
56000.0	90.7	-71.4			156.5	553.4	337.5	16.5	1.000035
56500.0	88.4	-71.3			152.5	553.5	342.5	14.5	1.000034
57000.0	86.1	-72.3			149.4	552.1	345.3	13.5	1.000033
57500.0	83.9	-72.1			145.4	552.4	345.2	13.2	1.000032
58000.0	81.8	-71.3			141.3	553.5	345.0	13.0	1.000031
58500.0	79.8	-70.6			137.2	554.5	341.8	14.0	1.000031
59000.0	77.8	-69.8			133.3	555.6	339.0	15.0	1.000030
59500.0	75.8	-69.0			129.4	556.6	338.0	15.6	1.000029
60000.0	73.9	-68.3			125.7	557.7	339.1	15.7	1.000028
60500.0	72.1	-67.5			122.1	558.7	340.2	15.7	1.000027
61000.0	70.3	-66.7			118.6	559.7	340.4	12.5	1.000026
61500.0	68.6	-66.0			115.3	560.8	358.9	9.0	1.000026
62000.0	66.9	-65.2			112.0	561.8	23.8	6.2	1.000025
62500.0	65.2	-64.5			108.9	562.8	67.3	5.5	1.000024
63000.0	63.7	-63.7			105.9	563.8	101.1	7.7	1.000024
63500.0	62.1	-63.0			102.9	564.8	102.5	7.6	1.000023

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 81 0845 HRS MST
ASCENSION NO. 224

UPPER AIR DATA
320U180224
LC-37
TABLE 6 CON'T

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
64000.0	60.6	-62.2			100.1	565.8	98.0	6.6	1.000022
64500.0	59.1	-61.5			97.3	566.8	92.8	5.7	1.000022
65000.0	57.7	-61.0			94.7	567.4	88.1	4.7	1.000021
65500.0	56.3	-60.8			92.3	567.7	81.0	3.8	1.000021
66000.0	54.9	-60.5			90.0	568.1	83.6	3.1	1.000020
66500.0	53.6	-60.3			87.8	568.4	92.3	2.5	1.000020
67000.0	52.3	-60.0			85.5	568.8	102.2	2.1	1.000019
67500.0	51.1	-59.7			83.4	569.1	105.4	2.2	1.000019
68000.0	49.9	-59.5			81.3	569.4	108.4	2.3	1.000018
68500.0	48.7	-59.5			79.4	569.4	151.7	2.4	1.000018
69000.0	47.5	-59.5			77.5	569.4	180.7	3.8	1.000017
69500.0	46.4	-59.5			75.6	569.4	198.5	5.0	1.000017
70000.0	45.3	-59.5			73.8	569.4	220.1	5.7	1.000016
70500.0	44.2	-59.3			72.0	569.7	235.2	7.0	1.000016
71000.0	43.1	-58.7			70.1	570.5	248.9	5.8	1.000016
71500.0	42.1	-58.1			68.2	571.3	270.1	4.8	1.000015
72000.0	41.1	-57.5			66.4	572.1	287.1	4.7	1.000015
72500.0	40.1	-56.9			64.7	572.9	283.5	5.0	1.000014
73000.0	39.2	-56.7			63.1	573.2	280.3	5.3	1.000014
73500.0	38.3	-56.6			61.6	573.3	278.8	5.2	1.000014
74000.0	37.4	-56.5			60.1	573.4	277.7	5.1	1.000013
74500.0	36.5	-56.5			58.7	573.4	277.9	5.0	1.000013
75000.0	35.6	-56.4			57.3	573.5	284.3	5.2	1.000013
75500.0	34.8	-56.4			55.9	573.6	290.2	5.5	1.000012
76000.0	34.0	-56.3			54.6	573.7	293.5	5.9	1.000012
76500.0	33.2	-56.2			53.3	573.8	295.1	6.4	1.000012
77000.0	32.4	-56.2			52.0	573.8	296.4	6.9	1.000012
77500.0	31.6	-56.1			50.8	573.9	287.4	6.3	1.000011
78000.0	30.9	-56.1			49.6	574.0	276.5	5.9	1.000011
78500.0	30.2	-56.0			48.4	574.1	264.8	5.9	1.000011
79000.0	29.5	-55.6			47.2	574.6	255.0	6.5	1.000011
79500.0	28.8	-55.1			46.0	575.3	247.1	7.3	1.000010
80000.0	28.1	-54.6			44.8	576.0	237.4	7.8	1.000010
80500.0	27.4	-54.0			43.6	576.7	226.2	8.3	1.000010
81000.0	26.8	-53.5			42.5	577.4	216.5	9.1	1.000009
81500.0	26.2	-53.0			41.4	578.1	220.2	11.4	1.000009
82000.0	25.6	-52.5			40.4	578.7	224.4	14.1	1.000009
82500.0	25.0	-51.9			39.3	579.4	227.8	16.6	1.000009
83000.0	24.4	-51.7			38.4	579.7	235.9	17.9	1.000009
83500.0	23.8	-52.0			37.6	579.3	242.8	19.4	1.000008

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 61 0845 HRS MST
ASCENSION NO. 224

UPPER AIR DATA
3200180224
LC-37

TABLE 6 CON'T

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
84000.0	23.3	-52.3			36.7	578.9	247.3	20.5	1.000008
84500.0	22.7	-52.6			35.9	578.5	249.0	20.6	1.000008
85000.0	22.2	-52.9			35.2	578.1	250.7	20.6	1.000008
85500.0	21.7	-53.2			34.4	577.7	251.5	20.5	1.000008
86000.0	21.2	-53.5			33.6	577.3	251.8	20.2	1.000007
86500.0	20.7	-53.8			32.9	576.9	252.0	19.9	1.000007
87000.0	20.2	-54.1			32.2	576.5	252.5	19.0	1.000007
87500.0	19.8	-54.1			31.4	576.5	253.0	17.9	1.000007
88000.0	19.3	-53.8			30.7	576.9	253.7	16.8	1.000007
88500.0	18.9	-53.5			29.9	577.4	254.6	16.1	1.000007
89000.0	18.4	-53.2			29.2	577.8	255.6	15.5	1.000006
89500.0	18.0	-52.9			28.5	578.2	256.9	14.8	1.000006
90000.0	17.6	-52.6			27.8	578.6	260.7	14.3	1.000006
90500.0	17.2	-52.3			27.1	579.0	264.7	13.7	1.000006
91000.0	16.8	-52.0			26.4	579.4	268.7	13.0	1.000006
91500.0	16.4	-51.6			25.8	579.8	272.4	11.6	1.000006
92000.0	16.0	-51.3			25.2	580.2	277.0	10.2	1.000006
92500.0	15.7	-51.0			24.6	580.6			1.000005
93000.0	15.3	-50.7			24.0	581.0			1.000005
93500.0	14.9	-50.4			23.4	581.4			1.000005
94000.0	14.6	-50.1			22.8	581.9			1.000005

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 81 0845 HRS MST
ASCENSION NO. 224

MANDATORY LEVELS
3200180224
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 7

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	5108.	16.3	.0	33.	345.6	2.7
800.0	6794.	14.7	-1.4	33.	298.1	5.0
750.0	8578.	12.5	-3.2	33.	266.2	7.4
700.0	10464.	8.9	-6.1	34.	248.7	9.7
650.0	12466.	5.7	-11.1	29.	248.2	16.6
600.0	14598.	1.2	-15.0	29.	264.2	17.8
550.0	16873.	-3.6	-19.6	28.	256.8	19.3
500.0	19319.	-9.8	-24.8	28.	250.1	16.4
450.0	21955.	-16.2	-30.6	28.	261.2	18.4
400.0	24824.	-23.3	-37.0	27.	274.1	22.7
350.0	27975.	-31.9	-43.9	29.	306.2	21.2
300.0	31491.	-39.8	-50.9	29.	322.3	28.3
250.0	35489.	-50.1			340.1	33.0
200.0	40192.	-58.2			338.8	42.9
175.0	42928.	-61.8			331.8	51.9
150.0	46029.	-65.9			334.5	47.0
125.0	49625.	-69.8			320.2	33.3
100.0	53934.	-74.6			321.9	25.5
80.0	58243.	-70.6			342.3	15.8
70.0	60868.	-66.6			347.2	12.1
60.0	63962.	-61.9			96.3	6.3
50.0	67688.	-59.5			107.8	2.3
40.0	72284.	-56.8			283.3	5.0
30.0	78277.	-56.0			263.2	5.9
25.0	82117.	-52.0			227.0	16.5
20.0	86841.	-54.3			252.7	18.5
15.0	92944.	-50.4				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
16 NOV. 81 0900 HRS MST
ASCENSION NO. 92

SIGNIFICANT LEVEL DATA
32U0b009.
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
683.9	3997.3	12.8	-3.5	32.0
850.0	5681.7	16.3	-4.3	24.0
803.0	6667.1	15.7	-4.8	24.0
700.0	10456.4	10.7	-9.6	23.0
562.8	16302.6	-.9	-22.2	18.0
537.8	17491.9	-2.2	-23.3	18.0
500.0	19378.7	-6.8	-28.3	16.0
400.0	24956.5	-20.8	-36.3	19.0
318.7	30334.6	-34.5	-48.6	22.0
300.0	31718.2	-37.3	-51.1	22.0
250.0	35774.6	-47.7		
226.3	37919.5	-52.2		
200.0	40527.1	-56.7		
186.9	41936.6	-58.5		
150.0	46441.8	-63.5		

STATION ALTITUDE 3997.30 FEET MSL
16 NOV. 81 0900 HRS MST
ASCENSION NO. 92

UPPER AIR DATA
320006009
S M R
TABLE 9

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	885.9	12.8	-3.5	32.0	1074.7	659.4	90.0	1.9	1.000261
4000.0	883.8	12.8	-3.5	32.0	1074.5	659.5	89.9	1.9	1.000261
4500.0	838.0	14.4	-3.7	28.3	1049.4	661.3	86.4	2.0	1.000255
5000.0	852.5	16.0	-4.2	24.6	1024.9	663.2	46.5	2.3	1.000249
5500.0	837.3	16.1	-4.4	24.0	1006.3	663.3	32.8	2.8	1.000244
6000.0	822.5	16.0	-4.6	24.0	989.1	663.1	330.5	2.5	1.000240
6500.0	807.8	15.8	-4.7	24.0	972.1	662.8	307.9	3.8	1.000236
7000.0	793.4	15.3	-5.2	23.9	956.4	662.3	319.4	4.4	1.000232
7500.0	779.1	14.6	-5.8	23.8	941.4	661.5	319.4	4.9	1.000228
8000.0	765.1	13.9	-6.5	23.6	926.7	660.7	311.4	5.5	1.000224
8500.0	751.4	13.3	-7.1	23.5	912.2	659.9	287.3	7.2	1.000220
9000.0	737.9	12.6	-7.7	23.4	898.0	659.1	273.2	8.6	1.000216
9500.0	724.7	12.0	-8.4	23.3	884.0	658.4	261.6	9.4	1.000212
10000.0	711.7	11.3	-9.0	23.1	870.1	657.6	250.2	9.9	1.000208
10500.0	698.9	10.6	-9.6	23.0	856.6	656.8	241.2	10.5	1.000205
11000.0	685.9	9.6	-10.7	22.5	843.8	655.8	247.1	11.7	1.000201
11500.0	673.3	8.6	-11.8	22.1	831.2	654.4	252.2	13.0	1.000197
12000.0	660.8	7.6	-12.9	21.7	818.8	653.2	256.7	14.4	1.000193
12500.0	648.6	6.6	-13.9	21.3	806.6	652.0	257.5	15.6	1.000190
13000.0	636.6	5.7	-15.0	20.8	794.6	650.9	258.3	16.5	1.000186
13500.0	624.8	4.7	-16.1	20.4	782.7	649.7	261.0	16.9	1.000183
14000.0	613.3	3.7	-17.2	20.0	771.1	648.5	263.1	17.5	1.000180
14500.0	602.0	2.7	-18.3	19.5	759.6	647.3	264.5	18.3	1.000176
15000.0	590.8	1.7	-19.3	19.1	748.3	646.1	265.2	19.5	1.000173
15500.0	579.9	.7	-20.4	18.7	737.2	644.9	265.7	20.8	1.000170
16000.0	569.2	-.3	-21.5	18.3	726.2	643.7	264.6	21.6	1.000167
16500.0	558.6	-1.1	-22.4	18.0	714.8	642.8	263.5	22.0	1.000164
17000.0	548.0	-1.7	-22.8	18.0	702.7	642.1	261.0	21.5	1.000162
17500.0	537.6	-2.2	-23.3	18.0	690.8	641.5	257.0	20.5	1.000159
18000.0	527.3	-3.4	-24.6	17.5	680.7	640.0	251.3	19.3	1.000156
18500.0	517.3	-4.7	-26.0	16.9	670.8	638.5	248.4	18.9	1.000153
19000.0	507.4	-5.9	-27.3	16.4	661.0	637.1	247.7	18.7	1.000151
19500.0	497.6	-7.1	-28.5	16.1	651.3	635.6	251.6	18.6	1.000148
20000.0	487.7	-8.4	-29.4	16.3	641.4	634.1	255.1	18.7	1.000146
20500.0	478.1	-9.6	-30.3	16.6	631.7	632.6	258.0	18.8	1.000143
21000.0	468.6	-10.9	-31.1	16.9	622.2	631.0	260.0	18.8	1.000141
21500.0	459.3	-12.1	-32.0	17.1	612.8	629.5	261.6	18.8	1.000139
22000.0	450.2	-13.4	-32.9	17.4	603.6	628.0	264.2	19.4	1.000137
22500.0	441.3	-14.6	-33.8	17.7	594.5	626.5	266.5	20.1	1.000134
23000.0	432.6	-15.9	-34.7	17.9	585.6	624.9	268.9	21.1	1.000132

STATION ALTITUDE 3997.30 FEET MSL
16 NOV. 81 0900 HRS MST
ASCENSION NO. 92

UPPER AIR DATA
32000600972
S M R
TABLE 9 CON'T

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES TRUE)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.0	-17.1	-35.6	18.2	576.8	623.4	267.7	22.1	1.000130
24000.0	415.6	-18.4	-36.5	18.5	568.2	621.9	272.1	23.3	1.000128
24500.0	407.4	-19.7	-37.4	18.8	559.7	620.3	275.8	24.4	1.000126
25000.0	399.3	-20.9	-38.3	19.0	551.3	618.8	279.0	25.1	1.000124
25500.0	390.9	-22.2	-39.3	19.3	542.5	617.2	281.4	25.1	1.000122
26000.0	382.7	-23.5	-40.2	19.6	533.9	615.7	282.9	24.1	1.000120
26500.0	374.7	-24.7	-41.2	19.9	525.4	614.1	287.6	23.6	1.000118
27000.0	366.9	-26.0	-42.1	20.1	517.1	612.5	294.3	23.7	1.000116
27500.0	359.2	-27.3	-43.1	20.4	508.9	610.9	298.9	23.8	1.000114
28000.0	351.7	-28.6	-44.1	20.7	500.9	609.3	302.9	23.8	1.000112
28500.0	344.4	-29.8	-45.0	21.0	493.0	607.7	304.4	23.6	1.000110
29000.0	337.2	-31.1	-46.0	21.3	485.2	606.1	304.6	23.1	1.000109
29500.0	330.1	-32.4	-47.0	21.5	477.6	604.5	306.7	23.5	1.000107
30000.0	323.2	-33.6	-48.0	21.8	470.1	602.9	309.4	24.3	1.000105
30500.0	316.4	-34.8	-48.9	22.0	462.5	601.4	314.2	25.1	1.000103
31000.0	309.6	-35.8	-49.8	22.0	454.4	600.2	320.0	26.1	1.000102
31500.0	302.9	-36.9	-50.7	22.0	446.5	598.9	325.8	27.2	1.000100
32000.0	296.2	-38.0	-52.3	20.5**	438.9	597.4	331.3	28.4	1.000098
32500.0	289.6	-39.3	-54.6	17.8**	431.5	595.8	333.3	28.6	1.000096
33000.0	283.2	-40.6	-57.0	15.0**	424.2	594.1	334.5	28.5	1.000095
33500.0	276.9	-41.9	-59.6	12.3**	417.1	592.5	335.7	27.5	1.000093
34000.0	270.8	-43.2	-62.5	9.6**	410.1	590.8	335.7	27.0	1.000091
34500.0	264.7	-44.4	-66.0	6.9**	403.2	589.2	335.6	27.2	1.000090
35000.0	258.9	-45.7	-70.4	4.2**	396.5	587.5	337.9	27.5	1.000088
35500.0	253.1	-47.0	-78.1	1.5**	389.9	585.9	341.0	28.1	1.000087
36000.0	247.4	-48.2			383.1	584.3	343.4	28.7	1.000085
36500.0	241.7	-49.2			376.0	583.0	344.8	28.9	1.000084
37000.0	236.2	-50.3			369.1	581.6	345.1	29.6	1.000082
37500.0	230.8	-51.3			362.4	580.2	342.9	31.4	1.000081
38000.0	225.4	-52.3			355.7	578.9	341.0	33.3	1.000079
38500.0	220.2	-53.2			348.7	577.8	339.6	35.5	1.000078
39000.0	215.0	-54.1			341.9	576.6	338.7	37.8	1.000076
39500.0	210.0	-54.9			335.2	575.5	339.8	38.9	1.000075
40000.0	205.1	-55.8			328.6	574.4	340.6	40.0	1.000073
40500.0	200.3	-56.7			322.2	573.2	340.1	42.7	1.000072
41000.0	195.5	-57.3			315.5	572.4	339.4	45.7	1.000070
41500.0	190.9	-57.9			309.0	571.5	339.1	48.0	1.000069
42000.0	186.3	-58.6			302.5	570.7	339.0	50.1	1.000067
42500.0	181.8	-59.1			296.0	569.9	338.4	52.0	1.000066
43000.0	177.4	-59.7			289.6	569.2	337.5	53.7	1.000064

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
16 NOV. 61 0900 HRS MST
ASCENSION NO. 92

UPPER AIR DATA
320006009
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	173.2	-60.2			283.3	568.5	336.8	55.0	1.000063
44000.0	169.0	-60.8			277.2	567.7	336.2	55.6	1.000062
44500.0	164.9	-61.3			271.2	567.0			1.000060
45000.0	160.9	-61.9			265.4	566.2			1.000059
45500.0	157.1	-62.5			259.7	565.5			1.000058
46000.0	153.3	-63.0			254.1	564.7			1.000057

STATION ALTITUDE 3997.30 FEET MSL
16 NOV. 81 0900 HRS MST
ASCENSION NO. 92

MANDATORY LEVELS
32000600926
S M R

GEODETIC COORDINATES
32.4N034 LAT DEG
106.42307 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5078.	16.3	-4.3	24.	44.0	2.4
800.0	6766.	15.6	-4.9	24.	314.5	4.1
750.0	8553.	13.2	-7.2	24.	285.4	7.4
700.0	10446.	10.7	-9.6	23.	240.5	11.4
650.0	12456.	6.8	-13.8	21.	257.5	15.5
600.0	14595.	2.5	-18.5	19.	264.8	18.5
550.0	16884.	-1.6	-22.7	18.	261.5	21.6
500.0	19351.	-6.8	-28.3	16.	250.7	24.6
450.0	22016.	-13.4	-32.9	17.	264.4	19.4
400.0	24914.	-20.8	-38.3	19.	278.7	25.0
350.0	28102.	-28.9	-44.3	21.	304.0	23.9
300.0	31654.	-37.3	-51.1	24.	328.1	27.6
250.0	35696.	-47.7			342.5	28.5
200.0	40429.	-56.7			340.1	42.8
175.0	43184.	-60.0			337.1	54.7
150.0	46316.	-63.5				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.


FILME
R-8